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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,509	09/26/2001	Cem Basceri	6047-59403	3307

7590 12/03/2002

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EXAMINER

THOMAS, TONIAE M

ART UNIT	PAPER NUMBER
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2822

Handwritten number 6

DATE MAILED: 12/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/965,509

Applicant(s)

BASCERI ET AL.

Examiner

Toniae M. Thomas

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

DETAILED ACTION

1. This action is a first Office action on the merits of Application No. 09/965,509, which is a divisional of Application No. 09/590,791, filed on 08 June 2000, now US Patent No. 6,482,736 B1.
2. The preliminary amendment received on 26 September 2002 cancelled claims 1-29. Currently, claims 30-42 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. *Claims 30-33 and 36-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Derderian et al. (US 6,188,097 B1).*

Regarding claims 30-33, 36, and 42

Derderian discloses a capacitor structure (figs. 5-9, 10a, and accompanying text).

The capacitor structure comprises: a conductive layer 126 having a pitted surface 130 with a layer of dielectric material 134 disposed conformally on the pitted surface (figs. 6 and 8), and a layer of conductive material 136 disposed on the layer of dielectric

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material (fig. 9). Derderian teaches that both the conductive layer 126 and the pitted surface 130 can be ruthenium oxide (col. 4, line 60 - col. 5, line 13).

The pits in the surface of the conductive layer 126 extend completely through the conductive layer (fig. 10a and col. 4, lines 28-59).

Regarding claims 37-41

Derderian disclose a capacitor structure in an integrated circuit (figs. 5-9, 10a, and accompanying text). The structure comprises: a layer of conductive material 126 with islands 130 disposed thereon (fig. 6); a layer of dielectric material 134 disposed conformally on the islands (fig. 8), wherein a portion of a surface of the layer of conductive material is exposed between the islands (fig. 10a and col. 4, lines 28-59). A layer of conductive material 136 is disposed conformally on the layer of dielectric material (fig. 9). Derderian teaches that the islands 130 can be formed from ruthenium oxide (col. 4, line 60 - col. 5, line 13).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. *Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derderian.*

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Derderian does not teach that the pits have a mean diameter in the range of one to three times the thickness of 126, or that the pits in the surface have a mean closest distance that is at least two times a thickness of the layer of dielectric material.

However, given the general process disclosed in the prior art, it would have been within the ability of one having ordinary skill in the art to discover the claimed mean diameter of the pits and the mean closest distance of the pits through routine experimentation.

"Where general conditions of [a] claim are disclosed in prior art, it is not inventive to discover optimum or workable ranges by routine experimentation" (see *In re Aller*, *Lacey*, and *Hall* 105 USPQ 233 (CCPA 1955)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toniae M. Thomas whose telephone number is (703) 305-7646. The examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (703) 308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JMJ

December 2, 2002


AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800